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The Relationship between Neuroticism and Interest Differentiation

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THE RELATIONSHIP BETWEEN NEUROTICISM AND INTEREST DIFFERENTIATION

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION

By presenting the three interrelated aspects of their career theory in a social cognitive context, Lent, Brown and Hackett (1994) have provided career theorists with a comprehensive explanation of the career development process. It is theorized that the process begins with the development of career related interests, followed by the selection of a career choice goal, and completed with actions to pursue the goal. Based on Bandura's (1986) general social cognitive theory, SCCT also emphasizes the influence of self-efficacy beliefs and outcome expectations on the career development process. For instance, the SCCT interest model hypothesizes that career interests develop as a result of self-efficacy beliefs and outcome expectations. That is, people develop interests in occupations in which they feel they can perform effectively (self-efficacy) and in which they expect positive outcomes (outcome expectations).

While SCCT emphasizes the role of self-efficacy beliefs and outcome expectations in the formation of vocational interests, it also acknowledges the role that various other person inputs (e.g., personality) may play in the interest

formation process. For example, in their original statement, Lent et al.(1994) suggested that the personality disposition toward neuroticism (i.e., the tendency to experience negative emotion and to be sensitive to negative feedback) may affect persons' abilities to benefit maximally from efficacy enhancing experiences and lead, therefore, to a pervasive sense of inefficacy across a wide variety of occupationally-relevant tasks. One result of this neuroticism-inducing sense of inefficacy may be difficulty in developing clearly differentiated patterns of vocational interests. More specifically, those with a tendency toward neuroticism may display low flat interest profiles (interest scores that all fall within the low range), representing little or no interest across a variety of occupations.

Flat or undifferentiated interest profiles are a source of confusion and frustration for both career counselors and their clients because they do not present clear patterns of interests for the counselors and clients to explore. Career theorists and practitioners have predicted that those individuals with flat, especially low flat profiles will have difficulty in attaining satisfaction and achieving success in both academic and vocational settings (e.g., Darley, 1941; Strong, 1959). Research examining the relation of profile flatness to various academic and

vocational factors has been conducted yielding inconsistent results.

An early study examined the relation of profile flatness to vocational immaturity. Zytowski (1965) studied a sample of college males to test Strong's (1943) hypothesis that those lacking primary or secondary interest patterns would show less maturity as measured by the Strong Vocational Interest Blank (SVIB; Strong, 1943). The hypothesis was supported by the results.

Crites (1960) examined the relation of vocational interest development to ego strength. He studied a sample of 100 males and found that those individuals with stronger ego functions have more highly developed interest patterns.

Carnes (1964) asserted that many researchers were linking certain patterns of interest to maladjustment concepts or personality abnormality while relying only on the results of studies conducted with college student subjects. To test these interest-maladjustment implications he administered the SVIB to 40 hospitalized psychiatric patients. His findings did not support the hypotheses that those showing greater abnormality would be associated with lesser interest intensity and variability of interest.

Munday, Braskamp, and Brandt (1968) studied a group of college males to explore the relation between interests patterns of the SVIB and psychological adjustment, maturity,

and intelligence. Their results showed no significant relationships between flat profiles and the three variables.

Holland introduced his theory of work personalities and environments in 1966. The theory is summarized in the following four statements (Holland, 1973):

1. Most people can be categorized as one of six types: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), or Conventional (C).

2. There are six model environments: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), or Conventional (C). Each environment is dominated by a given type of personality.

3. People search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles.

4. Behavior is determined by an interaction between personality and environment.

According to Holland, some persons or environments are more clearly defined than others. For instance, a person may closely resemble a single type and show little resemblance to other types, or an environment may be dominated by a single type. In contrast, a person who resembles many types or an environment that is characterized by about equal numbers of the six types is undifferentiated or poorly defined. The degree to which a person is well defined is its degree of differentiation. Holland stated that the differentiation of interests could be operationalized by the

range of an individual's scores from Holland's Vocational Preference Inventory (VPI; Holland, 1975). Scores from Holland's Self Directed Search (SDS; Holland, 1971) may also be used to determine differentiation of interests. Holland asserted that the differentiation of an interest profile could be expressed numerically by finding the difference between a person's highest and lowest scores from the interests scales. This definition of differentiation can also be applied to the Strong Interest Inventory (SII; Hansen, 1992) because the General Occupational Themes from the inventory are based on Holland's six personality types.

Several studies have been conducted to examine the relationship between differentiation and academic achievement. Holland predicted in his theory that those demonstrating congruency between personality and chosen career, differentiation of interests and consistency of personality characteristics would do well academically and demonstrate stability of vocational choice. Several studies were conducted to test these predictions. Frantz and Walsh (1972) studied students and faculty from graduate departments to study the relationship between profile differentiation and satisfaction and achievement in graduate school. The results of the study showed that when the three factors of congruence (degree of person-environment fit), consistency (proximity of interests on Holland's hexagonal

model) and differentiation were combined, they were indicative of satisfaction and achievement in graduate school.

O'Neil (1977) designed a study to assess consistency and differentiation as measures of academic aptitude and achievement in college males. He used the SDS to measure differentiation of interests, high school SAT scores to measure academic aptitude and college GPAs over a four year period to measure academic achievement. The results showed that highly differentiated subjects achieved higher SAT scores than did lower differentiated subjects. This supported Holland's hypothesis that persons with highly differentiated profiles will show greater academic potential than those with less differentiated profiles. However, differentiation scores were not related to GPA scores. This did not support Holland's hypothesis that those with clearly differentiated profiles will do better academically than those with less differentiated profiles.

Reuterfors, Schneider, and Overton (1979) also conducted a study to test Holland's predictions of differentiation and academic achievement. Using the Strong-Campbell Interest Inventory (SCII; Campbell, 1974), the researchers studied a sample of male and female entering college freshmen. At registration time the freshmen were administered the SCII and at the end of the semester the

researchers received the students GPAs from the registrar. The males with differentiated profiles received higher GPAs than did those males with less differentiated profiles. These results supported Holland's hypothesis that those with clearly defined profiles will do better academically than those with less differentiated profiles. However, differentiation was not significant for females.

As the above review shows, some researchers found a relationship between differentiation and academic achievement, while others did not. The results are inconsistent.

Differentiation has also been studied in relation to vocational stability. Holland (1968) completed a longitudinal study of diverse samples of college students to test his theory of vocational stability. He hypothesized that the consistency and differentiation of a student's interests are indicative of the stability of the student's initial vocational choice. Consistent profiles should indicate greater stability than inconsistent profiles and profiles with greater differentiation should indicate greater stability of vocational choice. Holland studied the variables of consistency and differentiation and their relation to stability separately. He did not find significant results to support the hypothesis about consistent profiles. However, for men, the results

supported the differentiation hypothesis. Differentiation was positively related to stability of vocational choice. The results for women were not significant.

Villwock, Schnitzen, and Carbonari (1976) tested Holland's assertion that stability of vocational choice can be predicted from: (a) congruence of personality with chosen career, (b) differentiation of personality, and (c) internal consistency of personality characteristics. Each of these factors was studied in relation to stability of choice of college major in a sample of university students. Results showed that congruency and consistency were positively related to stability. No significant relationship was found between differentiation and stability. When the three constructs were combined, all three predicted stability, but the prediction was not improved by adding differentiation and/or consistency to congruence. In summary, the researchers found that congruency was the most important predictor of stability, followed in importance by differentiation and consistency. This supported Holland's hypothesis.

Another study examined the relation of congruence, differentiation and consistency to interest and aptitude scores in women with stable and unstable vocational choices. Rose and Elton (1982) studied a sample of 280 women with stable vocational choices over 4 years and a sample of 327

women with unstable vocational choices over 4 years. The results supported Holland's hypothesis about congruency predicting stability. Differentiation and consistency did not distinguish between stable and unstable vocational choices.

A study was conducted to examine the relation of differentiation to vocational identity. Holland (1985) postulated in his theory that consistency, differentiation and vocational identity are related because they are all indicators of the clarity of self-perceptions and goals. Leung, Conoley, Scheel, and Sonnenberg (1992) tested this hypothesis by studying a sample of academically superior high school juniors. The results of the study suggested that consistency and differentiation are not related to vocational identity. One major possibility for the lack of relationship between the variables is the sample used for the study. The researchers acknowledged the uniqueness of the sample and suggested that the sample may have been at a particular stage in their development that caused their vocational identity, consistency, and/or differentiation to be unstable.

Differentiation has also been studied in relation to occupational level. While investigating the occupational level differences among men and women employed in Enterprising environments, Spokane and Walsh (1978) found

that those employees working in high occupational levels tend to be more differentiated and masculine than those working in lower occupational levels. The authors suggested that these results may be influenced by the similarity in educational level of the samples and that the results are in agreement with Holland's notion that occupational level may in part be a function of intelligence and self-evaluation.

Several studies examined the relationship between differentiation and career decidedness. Holland, Gottfredson, and Nafziger (1975) used samples of high school juniors, college juniors and employed adults to examine whether consistency and differentiation scores could predict decision-making ability. The researchers found that differentiation and consistency of SDS profiles predicted scores on their decision-making task more efficiently than any other rival predictors (e.g., demographic variables, Interpersonal Competency Scale, additional SDS scores) .

Lunneborg (1975) studied a sample of 1622 college students for a period of three years to examine the relationship between interest differentiation in high school and vocational indecision in college. She defined indecision as being a college upperclassman and having no major. The indecisive students were found and compared with the decisive students on precollege measures of achievement, aptitude and interest. The results showed that the best

predictor of decisiveness was academic achievement, both past and present. Differentiation did not relate to decisiveness.

Lowe (1981) also studied the relationship between differentiation and career decidedness. The VPI and Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico & Koschier, 1976) were administered to a sample of 30 males and 54 females over the age of 20. Significant correlations were not found between interest differentiation and undecidedness. The author asserted that failure to find predicted correlations between differentiation and undecidedness in this study and past studies may have been suggests inadequacies in the measurement of differentiation.

Alvi, Khan, and Kirkwood (1990) compared five different indices of differentiation for Holland's model. They found that when examining the differentiation of the three letter summary code (Holland code), the difference between the highest and third highest summary score should be used as the index of differentiation. They also concluded that when examining the differentiation of an entire interest profile, one should use one of Iachan's (Iachan, 1984) index of differentiation. Iachan's indices are based upon sophisticated mathematical reasoning and take into account the differences between all of the profile scores. In this study, the researchers also examined the

relationship between differentiation and career decidedness. As mentioned above, Holland suggested that those with undifferentiated profiles would have difficulty making a stable vocational choice. The results of Alvi et al.(1990) study failed to confirm this hypothesis. The authors suggest that the relationship between differentiation and career decision may be moderated by other variables.

Erwin (1987) studied differentiation in relation to various measures of development, career decisiveness and achievement. His sample of 400 freshmen university completed the American College Testing (ACT) Program's Interest Inventory (1983), the Student Development Task Inventory (SDTI; Winston, Miller, & Prince, 1979), the Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koschier, 1976), and the ACT Achievement Tests (1983). Results showed that students with highly differentiated interests exhibited higher development scores on Autonomy, Purpose, and Interpersonal Relations than did students with less differentiated interests. Contrary to what was expected, no differences were found between high or low differentiated students on the Career Decision Scale. Those with highly differentiated profiles scored higher on the achievement measures of English and Social Science than did those with less differentiated profiles. This result supported Holland's (1985) hypothesis that those with more

defined interests will score higher on measures of achievement. The results also boosts O'Neil's (1977) finding that students with greater differentiation of interests scored higher on the SAT than did those with less differentiation.

Miller (1982) looked at the relation between interest differentiation and occupational knowledge and information-seeking behavior in a sample of 48 students from a public community college who actively sought out career counseling. The students completed the SCII and an information survey, which was developed for the study that contained items concerned with the various sources of information students might use to learn about occupations. He found that those with higher differentiation scores exhibited greater information seeking behavior. In his discussion section, Miller advised counselors to encourage those clients exhibiting undifferentiated interest profiles to engage in more exploratory behavior. He also suggested that undifferentiated profiles may result from a lack of self-esteem. A lack of self-esteem would inhibit people from engaging in exploratory behavior and therefore, reduce their interest levels in a variety of occupations.

Differentiation has also been studied in relation to job satisfaction. Peiser and Meir (1978) examined congruency, consistency, and differentiation as predictors

of vocational satisfaction and preference stability. They studied a sample of 158 males and 202 females who had responded to the Ramak interest inventory (Meir, 1975) seven years prior to the study. The interest inventory was administered again to the sample, along with an occupational choice satisfaction inventory. It was found that congruence was correlated positively with males' and females' occupational choice satisfaction, while consistency and differentiation correlated with males' occupational choice satisfaction when vocational interests were congruent with occupational field. For males and females, positive correlations were found between congruency, consistency, differentiation, and stability of occupational interests. These results support Holland's hypotheses concerning congruency, consistency, and differentiation.

Wiggins, Lederer, Salkowe and Rys (1983) examined the relation of congruence and differentiation to job satisfaction. Holland's theory suggests that people find satisfaction in an occupation when they find work environments in which they can practice their preferred methods of interaction. Wiggins, et al., wanted to test this hypothesis and their hypothesis that those with highly differentiated profiles would be more satisfied with their jobs than those with less differentiated profiles. Their sample consisted of 247 teachers, representing diverse

Holland types and subtypes. The teachers were administered the VPI and job satisfaction was determined by a global score from the Job Satisfaction Blank (JSB; Hoppock, 1935). Results showed that congruence and differentiation were both predictive of job satisfaction.

Based on suggestions offered by previous researchers, Sackett and Hansen (1995) used an index of differentiation that incorporated all of the scale scores from the interest profiles. They predicted a positive association between interest differentiation and vocational achievement, career choice certainty, vocational stability, and job satisfaction. The sample consisted of 409 people who had taken the SVIB-Strong-Campbell Interest Inventory (SVIB-SCII; Campbell, 1974) as college freshmen. Twelve years later these people completed the SII and the Career Pattern Questionnaire (CPQ; Hansen, Swanson, & Reimer, 1986),which was designed to assess demographic data, educational history and experiences, employment history, evaluation of first postcollege job and current job, past and present career certainty, satisfaction with job and career, future career plans, and other career-related variables. The results of the study indicate that differentiation was not related to later vocational achievement (having a career and annual earnings), and job and career satisfaction.

In summary, the results from studies of differentiation have resulted in inconsistent and unimpressive findings. It has been suggested that these findings may be the result of the inadequate measurement of the construct of differentiation (Alvi, et al., 1990,Sackett & Hansen, 1995). This study will utilize Iachan's index of differentiation, a method of measuring differentiation that incorporates all summary scale scores and has been suggested for it's mathematical soundness.

Although previous researchers have hinted at the idea that those with flat interest profiles may exhibit different personality patterns than those with differentiated profiles (Crites, 1960, Miller, 1982), the relation between differentiation and dimensions of normal personality has never been examined.

There are two purposes for this thesis. The first (and primary) purpose is to test the hypothesized negative relation between trait neuroticism and interest profile differentiation that is derived from Social Cognitive Career Theory (Lent, et al, 1994). The second purpose is to explore the relation of the other four personality dimensions (extraversion, openness to experience, agreeableness and conscientiousness) to interest profile flatness. The second purpose is largely exploratory but is intended to provide a first look at the possibility that

persons with differentiated and undifferentiated interest profiles have different personality patterns.

CHAPTER II

METHOD

Sample and Procedure

This study was a secondary analysis of an already existing data set (Tokar & Swanson, 1995). The original researcher solicited 679 employed adults from a greater metropolitan region in the midwest. Participants represented 174 different occupations. Each participant was administered a questionnaire packet containing The Self-Directed Search(SDS), NEO Five-Factor Inventory (Form S) (NEO-FFI), and a demographic information sheet. The researchers instructed all of the participants to complete the questionnaire packet individually and then return it either directly to the primary researcher or to a contact person within one of the occupational settings with whom the primary researcher had made prior data-collection arrangements. The total number of questionnaires returned was 516, or 76%. Data from 26 of the returned questionnaires were unusable; thus the final usable sample size was 490.

78 of these 490 subjects were selected for this study. Based on their interest profiles, the subjects were divided

into three groups: low flat, high flat, and most differentiated. Low flat participants scored below the median on all six of Holland's personality scales. High flat participants scored at the median or above on all six of Holland's scales. Iachan's second index of differentiation was used to determine the most differentiated subjects. The formula for Iachan's second index is $1/3\ [x_1 - (x_3 + x_5/2)]$, in which x_1 is the subject's highest Holland score, x_3 is the subject's third highest score and x_5 is the subject's fifth highest score.

Instruments

Self-directed Search (SDS). The Self-Directed Search (SDS; Holland, 1985) is a 228-item self-administered, self-scored, and self-interpreted instrument designed for those in the process of career exploration. Respondents are asked to rate themselves in terms of Preference for Activities, Competencies, Occupational Preferences, and Abilities. These self-ratings are added and used to estimate an individual's resemblance to each of Holland's six personality types: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C).

Holland (1985) reported KR-20 internal consistency estimates for the SDS summary scales ranging from .86 to .91 for a sample of young adults and .87 to .92 for an older

adult sample. Holland (1985) reported test-retest reliability estimates of the summary scales over 1- to 4 weeks to be .70 to .89 for a sample of 30 adults. These estimates were reported for the 1977 edition of the SDS. Holland did not report test-retest reliability estimates for the most recent edition.

Evidence for construct validity is demonstrated by the pattern and size of summary scale interrcorrelations. For example, Holland reported an intercorrelation matrix , based on data from 256 young adults, wherin all adjacent summary scale pairs (e.g., RI, AS, EC, etc.) correlated more highly than scale pairs representing opposite ends of Holland's (1973, 1985) hexagonal model (i.e., RS, IE, AC). Evidence for concurrent validity is indicated by the percentage of agreement between respondents' SDS high-point summary codes and the first-letter code of their current vocational aspiration or occupation. Holland (1985) reported agreement percentages ranging from 58% to 64% for a number of samples ranging in age from 26 to 74 years.

NEO five-factor inventory (Form S) (NEO-FFI [Form S]. The NEO-FFI (Form S) (Costa & McCrae, 1992) is a 60-item self-report questionnaire developed as a short form of the NEO Personality Inventory (NEO PI-R). Individuals are asked to indicate how strongly they agree with each of the 60 statements using a 5-point Likert-type scale ranging from

strongly disagree (0) to *strongly agree*(4). The instrument is designed to measure the five major dimensions of normal adult personality: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C)

Costa and McCrae (1992) reported correlations between NEO-FFI (Form S) scales and domain scales of the revised NEO-PI (NEO-PI-R; Costa & McCrae, 1992); correlations were .92, .90, .91, .77, and .87 for N, E, O, A, and C domains respectively. For a separate sample of 1539 adults, Costa and McCrae (1992) reported Cronbach's alpha internal consistency reliability coefficients of .86, .77, .73, .68, and .81 for NEO-FFI (Form S) N, E, O, A, and C scales, respectively.

Evidence of the NEO-FFI (Form S) 's construct validity is indicated by correlations with self-report adjective factors of the five-factor model. Costa and McCrae (1992) reported convergent validity correlations from .56 to .62; absolute discriminate validity coefficients ranged from .00 to .20. Further evidence of construct validity is indicated by the pattern and size of correlations between NEO-FFI (Form S) scores and spouse and peer ratings of NEO-PI-R domain scales (Costa & McCrae, in press; McCrae, 1991).

Demographic information sheet. The original researcher designed a demographic questionnaire that asked respondents

to indicate their gender, age, race, years of education, income, and current occupation.

CHAPTER III

RESULTS

Basic descriptive statistics for the three groups on differentiation level and NEO-FFI scores are displayed in Tables 4 and 5 respectively. Figure 1 provides a plot of the mean T scores (adult normed) obtained from the three groups on each NEO-FFI scale. Noteworthy is the fact that the differentiation scores of the low and high flat interest profile groups fell at the first and fourth percentiles for adults (respectively), while those of the most differentiated group were quite high (75th percentile). These data support the validity of the rules used to classify subjects into differentiation groups and support my interpretations of the degree of profile differentiation obtained in each group.

Inspection of Figure 1 also reveals that the three groups have quite different NEO-FFI profiles. The high flat group showed marked elevation (T scores > 55) on E, O, and C and marked depression on N, while the low flat group displayed substantially depressed scores (T scores < 45) on the former three scales (E, O, and C). The differentiated subjects' scores fell midway between the high and low flat

groups on all but the Agreeableness scale (which did not at all differentiate the three groups).

In order to test the hypothesized negative relationship between trait neuroticism and interest profile differentiation a three group multivariate analysis of variance (MANOVA) was conducted. This procedure was also used to explore the relation of the other four personality dimensions (extraversion, openness, agreeableness, and conscientiousness) to differentiation. Results of the MANOVA indicated that the three groups differed on the five personality dimension scales, $F(10,142) = 4.50$, $p < .001$. The results of the univariate f tests are displayed in Table 6 and reveal that the variables N, E, O, and C contributed to the overall significance of the MANOVA: $N(2,75) = 3.35$, $p < .05$; $E(2,74) = 12.84$, $p < .001$; $O(2,73) = 5.04$, $p < .01$; $C(2,72) = 6.13$, $p < .01$.

To follow up the MANOVA and determine whether the low flat, high flat, and most differentiated groups possess different levels of the personality dimensions, t tests were conducted between a) the low flat and high flat groups, b) low flat and most differentiated groups, and c) high flat and most differentiated groups. Results indicated that the low flat group scored significantly lower than the other two groups on the Extraversion ($t(2,45) = -6.44$, $p < .01$ and $t(2,42) = -2.97$, $p < .01$), and Conscientiousness ($t(2,43 = -$

3.38, $p < .001$ and $t(2,42) = -2.27$, $p < .05$) scales, but only outscored the high flat group on the Neuroticism ($t(2,46) = 2.24$, $p < .05$) scale. The high flat group scored significantly lower than the other two groups on the N ($t(2,46) = -2.24$, $p < .05$ and $t(2,62) = -2.28$, $p < .05$) scale and significantly higher on the O ($t(2,46) = 2.84$, $p <$ 2.84 and $t(2,62) = 2.31$, $p < .05$) scale. These results suggest that there are clear personality differences among the three groups, but not in the direction predicted for Neuroticism which seemed to differentiate the high flat group from the other two groups on the basis of very low scores obtained on the N scale by the high flat subjects.

Table 1

Demographics

LOW FLAT GROUP n = 14

	Frequency	Percent
SEX		
Male	5	35.7%
Female	9	64.3%
Total	14	100.0%
RACE		
African American	1	7.1%
Asian	0	0.0%
Hispanic	0	0.0%
Native American	0	0.0%
White	13	92.9%
Other	0	0.0%
Total	14	100.0%
AGE (Years)		
Mean	44.71	
Standard Deviation	13.24	
Range	26 - 66	
EDUCATION (Years)		
Mean	14.50	
Standard Deviation	3.61	
Range	8 - 20	

Table 2

Demographics

HIGH FLAT GROUP n = 34

	Frequency	Percent
SEX		
Male	20	58.8%
Female	14	41.2%
Total	34	100.0%
RACE		
African American	1	2.9%
Asian	0	0.0%
Hispanic	0	0.0%
Native American	0	0.0%
White	33	97.1%
Other	0	0.0%
Total	34	100.0%
AGE (Years)		
Mean	35.53	
Standard Deviation	9.94	
Range	22 - 62	
EDUCATION (Years)		
Mean	15.68	
Standard Deviation	2.42	
Range	12 - 21	

Table 3

Demographics

MOST DIFFERENTIATED N = 30

	Frequency	Percent
SEX		
Male	14	46.7%
Female	16	53.3%
Total	30	100.0%
RACE		
African American	0	0.0%
Asian	0	0.0%
Hispanic	0	0.0%
Native American	0	0.0%
White	30	100.0%
Other	0	0.0%
Total	30	100.0%
AGE (Years)		
Mean	38.03	
Standard Deviation	11.78	
Range	22 - 59	
EDUCATION (Years)		
Mean	15.00	
Standard Deviation	2.48	
Range	12 - 21	

Table 4

Differentiation Scores and College Norm Percentiles

Group	Iachan Index	Holland Index	Norm %
Low Flat (n=14)			
Mean	3.18	14.71	1%
SD	0.95	4.05	
Range	1.50 - 4.50	8 - 24	1% - 15%
High Flat (n=34)			
Mean	3.86	18.24	4%
SD	1.24	4.57	
Range	1.17 - 6.17	6 - 28	1% - 27%
Most Differentiated (n=30)			
Mean	10.11	36.80	75%
SD	.76	3.12	
Range	9.17 - 12.00	32 - 45	49% - 99%

Table 5

Descriptive Statistics on NEO-FFI Scales and Adult Norm Percentiles

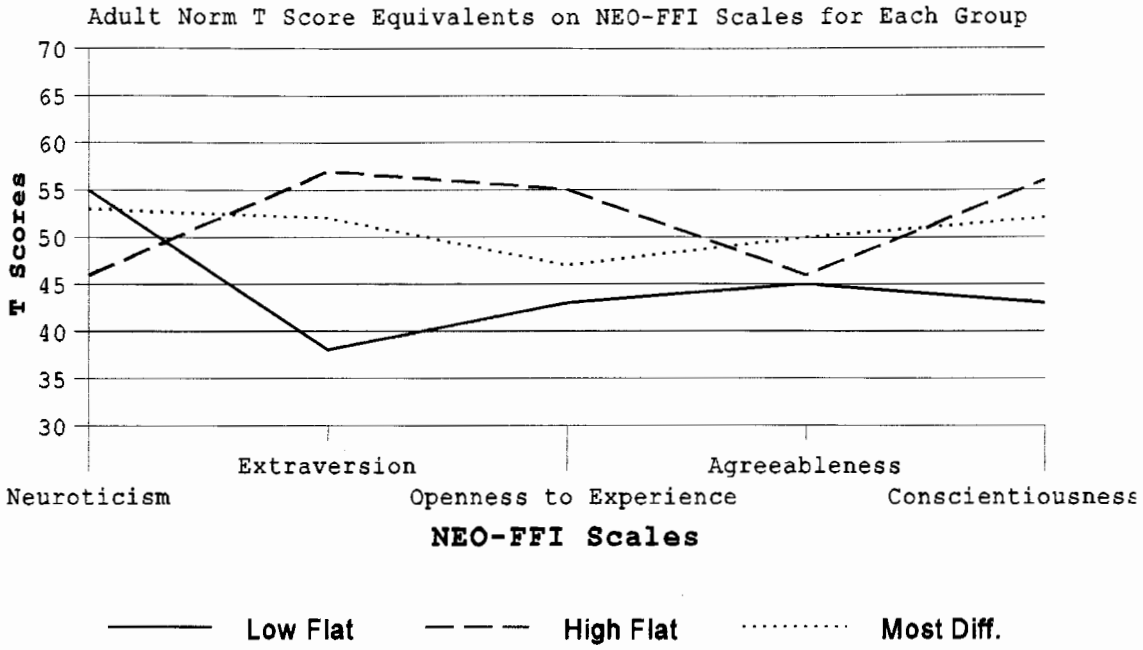
Group	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Low Flat (n=14)					
Mean	22.36	20.93	23.00	30.57	30.43
SD	9.39	6.41	7.16	8.55	6.31
Range	1 - 36	12 - 31	11 - 39	12 - 46	16 - 39
%	70%	15%	27%	36%	21%
High Flat (n=34)					
Mean	16.65	32.00	29.59	30.59	37.97
SD	7.42	4.96	7.37	7.29	6.16
Range	1 - 35	22 - 43	12 - 42	6 - 44	21 - 47
%	46%	78%	72%	36%	74%
Most Differentiated (n=30)					
Mean	21.63	28.70	25.40	32.67	35.73
SD	10.05	8.71	7.07	6.11	7.61
Range	4 - 39	12 - 47	14 - 39	22 - 44	15 - 48
%	70%	62%	39%	53%	62%

Table 6

Univariate F-tests with (2,75) Degrees of Freedom

Variable	Hyp SS	Error SS	Hyp MS	Error MS	F	Sig of F
Neuroticism	526.93	5893.95	263.46	78.59	3.35	.040
Extraversion	1215.64	3549.23	607.82	47.32	12.84	.000
Openness	525.28	3909.44	262.64	52.13	5.04	.009
Agreeableness	80.13	3788.33	40.07	50.51	.79	.456
Conscientiousness	564.11	3448.27	282.05	45.98	6.13	.003

Figure 1


Adult Norm T Score Equivalents on NEO-FFI Scales for Each Group
70
65
60
55
50
45
40
35
30
T Scores
Extraversion
Agreeableness
Neuroticism
Openness to Experience
Conscientiousness
NEO-FFI Scales
Low Flat
High Flat
Most Diff.

CHAPTER IV

DISCUSSION

The first and primary purpose of this study was to test the hypothesized negative relationship between trait neuroticism and interest profile differentiation as predicted by Social Cognitive Career Theory (1994). The results of the study did not support this hypothesis, revealing instead, an unexpected pattern of findings. The results showed that instead of the low flat group scoring significantly higher on the Neuroticism scale than the other two groups, the high flat group scored significantly lower on the N scale than the other two groups. An explanation of these findings follows. Although the first hypothesis was not supported, the results did fulfill the second purpose of the study, which was to explore the possibility that people with differentiated and undifferentiated interest profiles have different personality patterns.

Rather than differentiating themselves form the other two groups by scoring higher on the Neuroticism (N) scale, those with low flat profiles were associated with a combination of low Extraversion (E) and Conscientiousness (C) scores. These results may be explained by referring back

to the process of interest development proposed by SCCT. Those scoring low on the E scale tend to be content without the company of others and at times may avoid being with others. When they do interact with others they are formal and distant. This could have an effect on the development of their self-efficacy beliefs. They may avoid efficacy enhancing experiences and not spend sufficient time with others to receive the feedback that is necessary to develop self-efficacy beliefs. Their distant manner may also lead others to view them as cold and provide them with less positive feedback. Because those with low E scores also tend to proceed in a relaxed manner, they may also be viewed as less ambitious than others. Individuals scoring low on E also have a tendency to show less excitement than others. In general, they may show less enthusiasm about a variety of subjects than others. These individuals may also have less intense responses to positive feedback. This generally low level of enthusiasm may take shape in a low flat interest profile.

Those with low flat profiles also scored low on the Conscientiousness (C) scale, indicating that they may feel generally less competent than other individuals. This probably would have a direct effect on their self-efficacy beliefs. Those scoring low on this scale have a tendency to be disorderly, unorganized, and lackadaisical. Low scorers

often act without thinking matters through. All of these qualities may lead those scoring low on C to receive reports of unsatisfactoriness from significant others such as parents, teachers, coworkers and bosses. They probably experience fewer success experiences than others scoring higher on this scale. This may have a serious negative effect on the self-efficacy beliefs of those scoring low on C. So a combination of low E and low C scores and the characteristics associated with these low scores may affect an individual's self-efficacy beliefs and outcome expectations, resulting in a low flat interest profile.

Low scores on the N scale and high scores on the Openness (O) scale distinguished the high flat group. Costa and McCrae (1992) reported that low scorers on the N scale tend to be relaxed and easygoing. They have a high tolerance for frustration and are confident that they can handle themselves in difficult and awkward situations. These characteristics may result in more positive feedback from others, and an increase in self-efficacy beliefs. Also, people low on N may feel that they are capable of handling the negatives related with occupations and hence, maintain an interest in many occupations.

As mentioned, the high flat group had high scores on the Openness scale. Those who score high on this scale enjoy engaging in new activities. They are open to new ideas

and ways of doing things. Their willingness to consider new and different things may mean these people experience more efficacy enhancing experiences. They are probably also more willing to consider many different careers.

The most differentiated group was more difficult to classify than the low flat and high flat groups. Their standard deviations were higher on all of the scales and they tended to have more variable profiles than the other two groups.

This study has implications for career counselors. It is a first attempt to explore the idea that individuals with differentiated and undifferentiated interest profiles have different personality patterns. Although the results of the study did not show distinct personality differences between those with differentiated and undifferentiated profiles, it did show a clear difference between the personalities of those with low flat and high flat profiles. There are definite problems that can arise in the career development process for individuals who display these types of profiles. Both individuals with low flat and individuals with high flat profiles may suffer from career indecision, but for very different reasons. Those with low flat profiles may experience a lack of options, while those with high flat profiles may experience indecision from entertaining too many options. Understanding how personality plays a role in

the interest development process through its influence on self-efficacy beliefs and outcome expectations, career counselors may be better able to help their clients with these difficult situations.

Results of this study indicate that if a client displays a flat profile, it may be appropriate and quite helpful to include a personality measure in the counseling process. This may lead to a better understanding of how the client has come to his/her specific stage in the career development process and may provide clues as to what needs to be done to help the client along in the process.

As mentioned, this study was a first look at the relationship between the five personality dimensions and interest profile differentiation. As such, it contains limitations. One limitation is its generalizability. Subjects included 76 whites and 2 African Americans. Therefore, caution should be used when considering the generalizability of the results to other racial and ethnic groups.

Another weakness of the study was the small number of subjects with low flat profiles. Unfortunately, the low incidence of low flat profiles in the general population makes this a difficult group to study. However, attempts should be made to include a greater number of low flat subjects in future studies. This would allow for a greater

understanding of the personality characteristics associated with those individuals displaying low flat profiles.

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The thesis is therefore accepted in partial fulfillment of the requirements for the degree of M.A. in Community Counseling.

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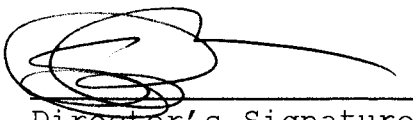

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